

## **Second and third vital elements of pull: Holding the water**

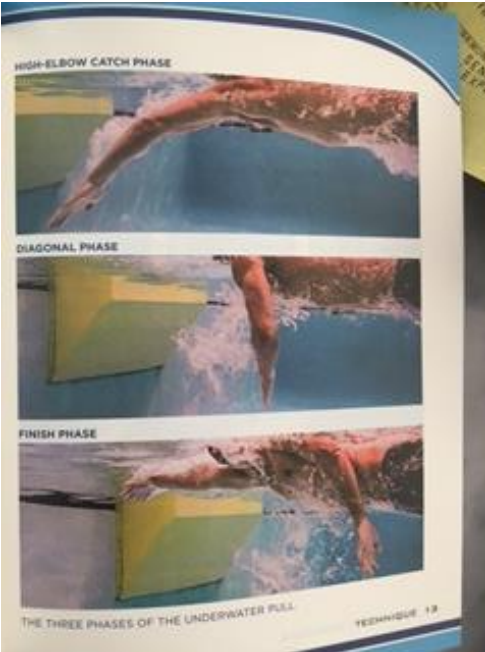
In the first article we discussed the first 1/3 of the underwater pull which focused on the high elbow catch phase of the stroke. In this article we will discuss the second and third phases of the stroke prior to recovery position when the arm comes out of the water.

A visual summary of the three phases of the underwater pull is detailed in figure 1.0 below. The first phase – the high elbow catch phase has been discussed in detail in article one of the underwater pull series. Phase 2 – called the diagonal phase and phase 3 called the finish phase will be discussed below.

### **Phase 2 – Diagonal Phase**

In this phase the hand/forearm is no longer in front of the face but rather the body is beginning to pass over the hand/forearm. During this phase the swimmer begins to angle the upper arm down in the water. The elbow continues to point outward away from the body just as it was positioned in the catch phase but the elbow no longer points up as during the catch phase. Keeping the elbow pointed up after the catch phase would force the upper arm to sweep wide to the side, which would not only be mechanically weak while placing excessive stress on the shoulder joint. You will notice in figure 1.0 in the diagonal phase the upper arm is approximately 45 degrees in relation to the surface of the water. To get in this position, the swimmer could imagine squeezing a balloon that rests between the upper arm and the armpit. While the upper arm “squeezes the balloon” and remains outside the lateral body line, the lower arm (elbow to finger tips) must direct under the body during (in line with the belly button) during the diagonal phase of the stroke. The only way lower arm can direct under the body is by pitching the forearm and hand toward the midline of the body. (*Swim Speed Workouts – Sheila Taormina 2013*). The diagonal phase of the stroke is not an awkward and mechanically difficult phase to master like the high elbow catch. Concentrating on the correct arm position during this phase of the stroke you will feel the most powerful part of the underwater pull. (*Swim Speed Workouts – Sheila Taormina 2013*).

Figure 1.0



### **Phase 3 – Finish Phase**

The finish phase occurs just before the hand/arm lifts from the water before the over-water recovery phase of the stroke. The finish phase begins as the hand/forearm which is under the body during the diagonal phase moves toward the outside edge of the body, next to the hip. You will notice the figure 1.0 the fingers are continuing to point toward the bottom of the pool with a open flat palm similar to the diagonal phase. Many swimmers tend to relax their hand/fingers in this part of the stroke but it's important to keep them toned (firm but not overly tense) all the way through the final phase. This is important because dynamic energy can be lost in this phase if not followed. The elbow never fully locks out at the finish it's slightly bent as the hand gives a "flick" just prior to coming out of the water to the recovery phase. (*Swim Speed Workouts – Sheila Taormina 2013*).

### **Summary:**

The best way to determine if the underwater pull is being performed properly is from an underwater water view since it clearly shows all three phases of the swimmers pull. At Triathlon PEI we provide under water video footage for the triathletes as part of our 6 week tri club swim sessions that we have been this winter and spring season.